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ORD # 2908-73

June 11, 1973

SG1I [redacted]

SG1I Dear [redacted]

A belated, but nonetheless sincere, note to thank you for the time which you made available to me at my last visit. I am most appreciative for the courtesies extended to me.

As you know from my recent telephone conversations with you since my return, I have had several visits with Ross Adey and have had a series of extremely good discussions with both him and R. Michelson on the subject of interest. Attached, as you requested, is a summary by Ross (to me) of the general area in which he is working and an outline of the direction he thinks the research should be continued.

SG1I I have initiated these on-going dialogues because, from my discussions with you and [redacted] I have been encouraged to believe that there is an increased interest in your shop in the Life Sciences. While I recognize that "increased" is relative, I still consider this a step in the right direction and I have given considerable thought as to what might constitute an intelligent and salable program in these disciplines. I have formed some opinions.

What I would propose would be a well designed program to advance our understanding of human biology in those areas relating to how audio, visual and other sensory inputs are acquired, transduced and processed. Specifically, to try to determine how these inputs are (or can be) influenced by external or physiological stimuli and whether or not decision processes and attitude of individuals can be deduced by means of direct or indirect measurements.

In suggesting this as an approach, I am reflecting my belief that, to a degree, we (collectively) are already fairly solidly committed to some aspects of it. Further (and assuming Ross could be persuaded to become involved), I believe

SG1I that in Drs. Adey, Michelson and [redacted] their respective staffs and Develco, we have the makings of an extraordinarily well qualified, competent and enthusiastic team nucleus. Not a great deal of effort would be required to fit the present work within the framework of a larger program, identify and go after solutions to existing problems and in a measured and practical fashion, start to enlarge and expand the overall effort.

From the viewpoint of the agency, this would not be a program intended to promote medical research in an esoteric field, but rather would be one designed and implemented to provide a continuing stream of achievements which would enhance the establishment's ability to meet its short-term goals and long-term

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objectives. As envisioned, work in this area of this discipline within the agency would be on-going over many, many years and would, eventually, become one of the fundamentals, if not the fundamental baseline in intelligence gathering.

The vector of the proposed scientific investigation would be along the lines of the present work and, as suggested in the letter from Ross. It would be planned such that it would produce in an orderly fashion, mathematical, technical and psychological advances pertinent to and with significance for the attainment of agency objectives. Without trying to provide a "shopping list", these advances might include the following:

- New and improved computer modeling capability with application in advanced signal processing, computer design and crypto analysis.
- Improved signal processing and display systems.
- Improved sensors - magnetic, electric and optic; improved in performance, configuration and utility.
- Step function improvement in shielded and secure facilities; magnetic and electrical shielding from dc to the GHz range.
- Materially improved and far more reliable noncontact polygraphs. There are at least two prime candidates, in this regard; the cryomagnetic and a combination of infrared and microwave.

  In this latter system, there appears to be very good evidence that temperature gradients in certain areas of the face and neck are extremely accurate indicators of pyschological attitudes and there are indications that specific microwave frequencies are selectively absorbed and reflected from the human physiology in some relationship to the same attitudes. In essence, the attitude determines the physiology which can then be measured on the skin - possibly over considerable distances and in nonselected environments.
- An enhanced capability to provide the optimum physical and physiological environment in which to monitor (in a security sense) and train intelligence operatives.
- The capability to provide accurate projections of the probable response of individuals and/or segmented populace to external and/or physiological stimuli.

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- The real possibility that, at some point in the future, external measurements can be correlated with some degree of accuracy with simple thought processes in humans.

  (Within the past few weeks, on the joint Michelson/Develco program, we were able to identify, on a scalp probe, the electrical analog of an audio signal applied in a test subject's ear. The results appear to be unambiguous and free from artifact. This represents a potentially significant step forward which, while it is a very long way from thought reading, could eventually lead to a greatly improved understanding of the overall processing mechanisms involved.)

The initial structuring of a major program plan, as suggested in this letter, will require the involvement of the scientists presently working with us. They are the key to the opportunities, they know the direction of their respective endeavors and theirs are the accomplishments we hope to utilize. It is my belief that they will cooperate to the degree that interest is shown by the agency; they are much too busy to waste time developing detailed proposals as an exercise and I think we all recognize that fact.

What I feel might make sense, in this regard, is that in conjunction with your people, we would work out some preliminary draft outlines and budgeting estimates from which a modest study contract could be let. The study contract to result in the overall program plan recommendation. I am sure the resultant document would have considerable value to your department for it would be meaningful for planning purposes and, almost certainly, timely.

In putting forward this particular program for consideration, I am quite convinced that, increasingly, the agency will depend on its understanding of man as a performing biological organism to meet its "intelligence" charter. There is absolutely no question in my mind that the work being done by Adey and others in highlighting this fact and, indeed, is ushering in a new and infinitely more sophisticated era of endeavor than anything the agency has done heretofore. We know this and the Soviets and the Red Chinese know it and, in this vitally significant field, we must get the lead and maintain it.

Bob

Robert P. Gow

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